

**Commonwealth of Kentucky
Division for Air Quality**

PERMIT APPLICATION SUMMARY FORM

Completed by: Frough Sherwani

GENERAL INFORMATION:

Name:	Augusta Fiberglass Coating, Inc.
Address:	815 Dix Dam Road Harrodsburg, KY 40330
Date application received:	2/6/2007
SIC Code/SIC description:	3089, Plastic Products (Not elsewhere classified)
Source ID:	021-167-00027
Source A.I. #:	83749
Activity ID:	APE20070001
Permit:	V-07-007

APPLICATION TYPE/PERMIT ACTIVITY:

<input checked="" type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input type="checkbox"/> Conditional major
__Administrative	<input checked="" type="checkbox"/> Title V
__Minor	<input type="checkbox"/> Synthetic minor
__Significant	<input type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input checked="" type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input checked="" type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input type="checkbox"/> NSPS	<input type="checkbox"/> SIP
<input type="checkbox"/> PSD	<input checked="" type="checkbox"/> NESHAPS	MACT 40 CFR 63, Subpart WWWW
<input type="checkbox"/> Other		
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

- ☐ Acid rain source
- ☐ Source subject to 112(r)
- ☐ Source applied for federally enforceable emissions cap
- ☐ Source provided terms for alternative operating scenarios
- ☒ Source subject to a MACT standard
- ☐ Source requested case-by-case 112(g) or (j) determination
- ☐ Application proposes new control technology
- ☒ Certified by responsible official
- ☒ Diagrams or drawings included
- ☐ Confidential business information (CBI) submitted in application
- ☐ Pollution Prevention Measures
- ☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

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Pollutant	Actual (tpy)	Potential (tpy)
PM/PM₁₀	0.019272	0.019272
SO₂	0.0766062	0.0766062
NO_x	0.67452	0.67452
CO	0.091542	0.091542
VOC	23.550107	23.550107
Dimentyl Phthalate	1.5768	1.5768
Methylene Chloride	0.2748928	0.2748928
Styrene	19.922324	19.922324
Source wide HAPs	21.774017	21.774017

SOURCE DESCRIPTION:

On February 6, 2007 the Division received an application from the source for the construction/operation of a temporary facility in Harrodsburg, Kentucky for the manufacturing of fiberglass reinforced plastic (FRP) stack liners. The FRP stack liner cans will be manufactured through a non-continuous sequence of winding, chopping, and hand lay-up processes involving fiberglass strand and a styrene-based, fire-retardant vinyl ester. The resin serves as the bonding matrix for the reinforcing glass in the chimney liners. The resin is diluted and stabilized with styrene (generally 41.5 to 46.5%). A catalyst, methyl-ethyl ketone peroxide (MEKP) is added to the resin at the point of contact with the glass reinforcement to “harden” the resin. The MEKP makes up approximately 2% of the resin mixture applied. During the resin hardening reaction process, the styrene is either consumed in the peroxide reaction or driven out of the mix during the exothermic cycle.

The process at the proposed facility begins as a release film is wrapped onto a spinning tool referred to as a mandrel, which can be installed in either a vertical or horizontal position. The mandrel is then wetted with resin from a non-atomized spray gun. Chopped fiberglass strand mat for corrosion barrier is applied, wet with resin, and rolled to consolidate the fiber and eliminate trapped air. When the liner is cured, the filament winding process is started. Filament winding involves the application of a thin layer of chopped fiberglass strand and resin followed immediately with a layer of continuous winding strands, which are wound onto the mandrel on top of and embedded into the chopped strand mat. During the winding process, fiberglass strand is pulled through a bath of resin and applied to the mandrel. During the chopping process, fiberglass strand is chopped and mixed with resin as it is sprayed simultaneously onto the spinning mandrel. The chopped strand and resin is applied from a mechanical, non-atomized spray gun (chopper gun). The winding continues until a full can is complete, at which point it is lifted free of the mandrel. During final assembly of the liners within the stack, resin is applied manually and smoothed with hand rollers to join each stack liner can.

Once manufactured, the stack liner cans will be transported to and installed within one new stack being constructed at the E.ON US (E.ON) E.W. Brown Generating Station (Brown Station) to

handle the exhaust gas from a new flue-gas desulfurization system. The new facility will be constructed on an unused area of the E.ON's property. The 31-foot diameter stack liner (consisting of approximately 12 FRP cans) will be produced during the approximate 18-month span the facility will be in operation.